

CLAIMS

What is claimed is:

1. An apparatus for coupling wireless local area network (WLAN) signals between an internetworking
5 device and a remotely located access point using a transport network, the apparatus comprising:
an access point coupled to the transport network for communicating with an internetworking device, the transport network further providing a
10 power signal to power at least some components of the access point;
the access point further comprising:
i) a wireless local area network (WLAN) access point, for receiving wireless local area
15 network signals from wireless computing equipment and converting such signals to local area network compatible signals; and
ii) an access point remote converter, for receiving the local area network compatible
20 signals from the wireless local area network access point and converting such signals to transport modulated format signals suitable for transmission over the transport network.
2. The apparatus of claim 1 wherein:
25 the transport network is a twisted pair telephone cabling and the access point remote converter converts the local area network signals to a Digital Subscriber Line (xDSL) format.

3. The apparatus of claim 2 wherein the access point further comprises a power supply connected to be energized by the power signal from the transport network to supply power to at least some components of the access point.
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4. The apparatus of claim 1 wherein:
the transport network is an optical fiber network and the access point remote converter converts the local area network signals to an optical wavelength compatible with the fiber network.
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5. The apparatus of claim 4 wherein the access point further comprises a power supply connected to be energized by the power signal from the optical fiber network to supply power to at least some components of the access point.
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6. The apparatus of claim 1 further comprising:
a power inserter that inserts the power signal onto the transport network.
- 20 7. The apparatus of claim 1 further comprising:
a signal coupler that couples the power signal from the transport network to the access point.
8. The apparatus of claim 1 wherein the transport network is an analog signal transport medium.
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9. The apparatus of claim 1 further comprising:
a head end access point, comprising:
a head end remote bridge,
connected to receive the transport
5 modulated format signals from the
transport network, and to convert such
signals to data network compatible
signals.
10. The apparatus of claim 9 wherein the access point
10 and head end access point use a cable modem to
perform the transport modulation, conversion, and
bridging functions.
11. The apparatus of claim 9 additionally comprising
a local area network hub, for receiving the data
15 network compatible signals from the head end
remote bridge, and forwarding such signals to the
internetworking device.
12. A distribution network for coupling wireless
local area network signals between an
20 internetworking device and a plurality of
remotely located access points, to provide
wireless local area network service within a
geographic coverage area composed of microcells,
the distribution network making use of available
25 transport cabling, comprising:
(a) a plurality of access points, each deployed
with a respective one of the microcells and
furthermore, each access point being coupled
to available transport cabling for

communicating with an internetworking
device, the available transport cabling
further providing a power signal to power at
least some portions of the access point, the
5 access points each further comprising:
i) a wireless local area network access point,
for receiving wireless local area network
signals from computing equipment located
within the respective microcell, and
10 converting such signals to local area
network compatible signals; and
ii) an access point remote converter, for
receiving the local area network compatible
signals from the wireless local area network
15 access point and converting such signals to
transport modulated format signals suitable
for transmission over the available
transport cabling.

13. A distribution network for coupling wireless
20 local area network signals between an
internetworking device and a plurality of
remotely located access points, to provide
wireless local area network service within a
geographic coverage area composed of microcells,
25 the distribution network making use of available
transport cabling, comprising:
(a) a plurality of access points, each deployed with
a respective one of the microcells and
furthermore, each access point being coupled to
30 available transport cabling for communicating
with an internetworking device, the available

-20-

transport cabling further providing a power signal to power at least some portions of the access point, the access points each further comprising:

- 5 i) a wireless local area network access point, for receiving wireless local area network signals from computing equipment located within the respective microcell, and converting such signals to local area
10 network compatible signals; and
- ii) an access point remote converter, for receiving the local area network compatible signals from the wireless local area network access point and converting such signals to
15 transport modulated format signals suitable for transmission over the available transport cabling; and
- (b) a head end access point, comprising:
 - a head end remote bridge,
20 connected to receive the transport modulated format signals from the transport cabling, and to convert such signals to local area network compatible signals.